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TABLE OF CONTENTS

The Arboretum Bulletin

Rhododendrons in British Gardens, Their Place and Influence

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RHODODENDRON culture, as we now know it in this country, is a comparatively recent activity. Since its beginning, some 200 years ago, when *R. ponticum* and the North American species were introduced, the latter for several generations being a primary factor in the creation of the older hybrids, it has been marked by long periods of quiescence. Then about 100 years later came the first Chinese introductions of Fortune and Hooker, some of these, crossed with the American and others, stimulating cultivation and having a profound influence on rhododendron progress, notably in those milder parts of the country only congenial to the noble large-flowered varieties of the *Griffithianum* class. Later (1899-1911) E. H. Wilson, followed by Forrest, Farrer, Kingdon Ward, Rock and other collectors, launched upon us their epoch-making discoveries, a veritable flood of species which created nothing short of a revolution in garden rhododendrons.

This enormous influx of rhododendrons could not have occurred at a more favorable time. We had just arrived at that turning point in our garden policy at which the informal layout, with shrubs as its primary feature, was definitely gaining ground over the geometrical formalities of the Victorian era, and when there arose a strong reaction against the indoor plant for that of the hardy outdoor. This meant that these new rhododendrons in all their endless manifestations, natural beauty, hardiness and general adaptability to our soil and climate found a reception prepared for them. In themselves the mightiest array of plants of supreme ornamental value ever entering this country, it was manifest that they were destined, and that quickly, to create an effect of the utmost importance upon our gardens. That this promise has been abundantly fulfilled is common knowledge, and that the Asiatic rhododendron and its offspring will continue to amaze us with its inestimable loveliness in an ever-increasing measure is beyond doubt.

Having recognized the fact that rhododendrons are calcifuge, that they enjoy a sharply drained, vegetable soil, not necessarily peaty, and some shade from hot sun, much of our planting is done under woodland or semi-woodland conditions. But there are, of course, reservations in a genus so vast. Thus it may be taken as a sound rule that the smaller the leaf the more exposure the plant will enjoy. Hence the adoption of such dwarfs as those of the *Lapponicum, Virgatum, Saluenense and Triflorum* series for rock gardens or other open sites. The many excellent members of such groups as the *Fortunei, Thomsonii, Neriiflorum* and *Campylocarpum* are the better for

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mid-day shade, while those of the big-leaved sections, like *Falconeri* and *sino-grande,* seem to delight in still cooler conditions, often thriving with an entire absence of direct sun. In all of these broad suggestions American growers will, of course, recognize that their sunshine is often considerably more intense than ours.

While we recognize that most rhododendrons are xerophilous, loving a porous soil and enduring much dryness when established, they do, in their native homes, usually get more rain in summer than we do. Their flowers and foliage, even among the alpines, are apt to scorch, and the roots being so near the surface will suffer unless mulched with half-decayed leaves, bracken and other ferns, or naturally decayed garden refuse. Then we generally try to provide light shade for most of them (standard cherries, Sorbus, Laburnum, Malus, etc.) while in woodland planting there is nothing much better than widely dispersed conifers and oaks. Incidentally, the branches of these sun-screens tend to ward off frost, especially spring frosts, here so liable to injure young growth as well as blossom. Woodland provides also the very necessary protection against wind, which all but the small alpines detest, and at the same time helps to promote that atmospheric humidity so congenial to the welfare of the shade-lovers. Many of us having aged plantations of *R. ponticum,* the even hardier *R. catawbiense,* their old hybrids and, perhaps, of *arboreums,* have found these excellent nurse plants for the choicer modern kinds. The two first-mentioned, in particular, make most admirable wind and sun screens, areas of various sizes being opened-out among them affording ideal planting sites. Even the soil, for generations augmented by rhododendron leaf-fall, appears in such circumstances to be particularly friendly to the newcomers of the genus.

While dwarf rhododendrons and Japanese azaleas continue with us to win their way as rock garden shrubs, for which so many are peculiarly suited, those of us who specialize in the family, often make plantations of these alone. Selecting some gentle slope with full exposure, or only partially sun-screened, the space is inset with a few picturesque boulders and planted fairly closely with these little evergreens, so that in a few years the bushes will entirely cover the soil. Thus they produce a delightful effect, even in winter, with their cheerful foliage. They are a mass of color in spring, with a partial crop in the later months, and are practically carefree insofar as labor is concerned. As a general rule, these azaleas and rhododendrons are, I think, best kept in separate companies, but when we come to dealing with the taller of the latter and deciduous azaleas, we often find it a good plan to associate them. Not, however, in a meaningless mixture but in groups of well-defined varieties, when the azaleas may be so selected that they will bloom at a different period to those of their neighbors and provide in autumn that splendor of leaf color which, not the least valuable of their properties, derives the advantage of background afforded by their evergreen companions.

The lesser rhododendrons may, of course, be assembled on the flat, with or without a center or backing of rather taller varieties, this plan being preferred where the soil happens to be wanting in summer moisture. And there are many of up to middle height which will stand full sun with us as well as the alpines. Among these are the taller racemosums and a large number of triflorums, notably such beautiful species as *R. oreotrephes* and *exquisitum, lutescens, chartophyllum, charianthum, Davidsonianum* and *yunnanense.* As early winter-spring bloomers of like habit I would mention *R. dauricum, mucronulatum* and the invaluable hybrid, praecox, other desirable deciduous species being *nudiflorum* and *roseum, Vaseyi, Weyrichii* with salmon-rose blossoms, the brilliant ruby-rose *Albrechtii, rhombicum* and the exquisite *Schlippenbachii.* Also in the azalea section is that splendid old woodlander, *R. luteum (flavum),* a first-class shrub for companioning the larger evergreens in semi-shade, a prodigious producer of its very fragrant yellow trusses and one that will naturalize almost anywhere and present autumn leaf color of unmatched grandeur. Nor can anyone overlook the lovely and hardy *R. mucronatum,* with a near resem-

blance to *A. indica* of greenhouses in its richly fragrant flowers.

The planting of the taller rhododendrons will be directed by the conditions prevailing perhaps more arbitrarily than in the case of the smaller. Most of us dispose of them in thin woodland, the tree branches being cut to at least 20 feet. But still better, especially in the opinion of those afraid of drip, is glade treatment, the bushes being planted, singly or in groups, along the outskirts of trees, the larger leaved kinds being given the shadier side with grass occupying the central aisle. But, as already inferred, garden value is enhanced by an informal introduction of azaleas, not only the old yellow but a selection of the innumerable Mollis, sinensis and Ghent hybrids, not forgetting those later bloomers of the *R. occidentale* group and the Knaphill strain, both affording many varieties in soft pastel tints and all large flowered, very free, and richly fragrant.

While many, perhaps most, amateur specialists still favor the species rather than the hybrids there is much evidence to prove that the modern hybrids and some of the older ones give more generous returns in general garden value, and this evidence increases in volume with each passing year. We must, nevertheless still cherish such superlative species as *R. Augustinii, Thomsonii, calophytum, Griffithianum, haematodes, Williamsianum, campylocarpum, Falconeri, arboreum* and *barbatum* in their various forms, *Fortunei, Hookeri, repens, lacteum, Souliei, Griersonianum* and *Fargesii* to name but a few of a gallant company. These are plants which possess a richness of quality, a hall-mark of natural vintage, which 80 per cent of the hybrids can never hope to claim. The well-defined and fixed characteristics of most of them are of inestimable value in hybridizing and if they are in some cases less amenable under cultivation than their cross-bred offspring this does not mean they are one whit the less appreciated by the really keen grower. Then the species are often better in foliage, a feature many of us feel should be accorded more attention than it has so far enjoyed among rhododendron growers.

As with the species, so enormously increased of late years, so with the hybrids. We have traveled a long way since the earlier crosses with the tight, often conical trusses and equally often weak foliage, the flowers having a comparatively limited range in color through white to blush, lilac, pink, mauve, purple and red. We have created, with the help of the new material, not only new types with more open trusses and more campanulate or trumpet-shaped blossoms of more substantial texture, but new colors. Yellows and scarlets have arisen in plenty, blood reds and orange scarlets in tones never before seen, salmon and apricot shades and many lovely tints of cinnabar, salmon and scarlet, softened by infusions of cream or ivory. There have occurred some admirable blues also, notably in the *Augustinii* crosses (Blue Diamond, Blue Tit and Blue Bird) and many of us hope for more of this attractive color in the larger flowered hybrids. That we shall get them there is no doubt, and not only blues, for when the present urge for hot scarlets subsides, who can say what entirely fresh colors this most resourceful of shrubs will yield.

R. Griersonianum, with its geranium-scarlet blossoms, has, of course, been the leading factor in the production of most modern hybrids of rich colors, many of its unions with *R. repens, haematodes, neriiflorum, eriogynum* and *dichroanthum* being the finest in scarlet and kindred hues ever seen. But this famous species, always so potent in its influence as a breeder, has given us something more. Being a late bloomer it has enabled us so to prolong the season that we may now enjoy a succession of color to the end of July or August. Into these innumerable hybrids I cannot enter here. But many as they are—too many, some think, especially of reds—that we have not yet touched the peak of rhododendron production in all its manifold variety and splendor cannot be doubted. Even so, we cannot say that any modern hybrids have yet eclipsed, or even equalled, some few of those older ones which are not likely to be forgotten, let those of today surge forward as they will. I refer to such wonderful creations as R. Loderi, Bar-

(Continued on Page 27)

Better Rhododendron Hybrids of Great Britain

FRANCIS HANGER

NOTE

While on military duty in England, I visited the gardens of the late Lionel de Rothschild at Exbury in April, 1945. Mr. Hanger, who was then and had been for a number of years the head gardener for these gardens, conducted me on an extensive tour. He, under Mr. de Rothschild's direction, carried on much of the hybridizing out of which the many new hybrids described in this article originated. Mr. Hanger's horticultural knowledge, however, is not limited to rhododendrons. He is thoroughly grounded in all phases of horticulture. At Exbury, an extensive arboretum was maintained. In recognition of Mr. Hanger's capabilities the Royal Horticultural Society last year employed Mr. Hanger as curator of the Society's gardens at Wisley. At my request he has kindly and entirely gratuitously forwarded this article on new rhododendron hybrids. It should appeal not only to the avid rhododendron collector, but to those who want to take up rhododendrons, since it represents the last word in outstanding hybrids. Many of the readers of this article will want to know when and where they can purchase plants of the varieties described. Unfortunately, increase can only be accomplished by vegetative reproduction such as graft scions from or layered branches of the original plant which has received the hybrid varietal name. Most of the growers are private and hence it may be several years before many of the varieties described are obtainable in commerce. Fortunately, some of the older hybrids have been imported during the past seven or eight years by enterprising growers and nurserymen and are obtainable in very limited quantities from a few sources. It is to be hoped that the outstanding results achieved by the growers mentioned in this article in Britain, will offer an incentive to private growers and nurserymen in this country so that we, too, may before many years have passed be able to list our originations that will compare favorably with the beautiful new hybrids described in this article. Our readers are fortunate, indeed, to be able to learn firsthand from an outstanding expert in Britain what patience and vision has accomplished in new hybrid creations of the rhododendron family. DONALD G. GRAHAM

ENGLISH gardening of the twentieth century has become totally different from that of the nineteenth. During the reign of Queen Victoria the magnificent parks and gardens of the large private estates with their formal gardens needing endless attention were all the vogue. Alas; high taxations caused economic necessities, and gone are the flower beds with their thousands of scarlet geraniums requiring annual renewal, together with the topiary work so popular at that time.

The greenhouses once filled with hundreds of decorative plants for the mansion's adornment now boast of tomatoes, lettuce, beans, etc., grown not for consumption by the owner, but as a means of providing the wherewithal to pay the gardeners' wages.

Most of the largest mansions and gardens of England, with their large staffs, are now only a shadow of their former selves; the upward rises in wages, and present heavy taxation compel the curtailment of anything approaching luxury. Nevertheless this country of ours has always possessed beautiful gardens and with the help of the aristocrat of evergreens—the rhododendron—there is no reason at all why those situated in favorable districts with lime-free soil should not have perhaps a far more natural and beautiful garden by developing their shrub and woodland gardens.

Much help in attaining this, has been given to us by the wonderful variety of plants, trees and shrubs sent to this country by twentieth century explorers such as Wilson, Farrer, Forrest, Kingdon Ward, Rock and Sherriff. These men visited China, Burma, Tibet, Assam, etc., and amongst the thousands of plants of which seed was sent home were hundreds of species of rhododendrons.

The diversity of this family of plants is vividly shown in the contrast between the prostrate *R. patulum* and *R. radicans,* and the tree-like forms of *R. grande.* Leaves, flowers and habits of the various species vary so considerably, and thus open up to the intelligent breeder of new plants the possibilities of hybridization and the enjoyment to be obtained from possessing a woodland garden of beautiful rhododendron hybrids raised by crossing these contrasting species together.

This twentieth century influx of new plants into Great Britain has not been allowed to go to waste, but has provided the necessary material to real garden lovers to continue to enjoy their horticultural hobbies, and gain true pride and encouragement in rhododen-

dron hybridization, so economical in labor, thus helping to overcome the heavy demands from the chancellor of the exchequer.

Before I write of the newer rhododendron hybrids I should mention that much good work was done during the nineteenth century by various nurserymen and private growers.

The very earliest growers raised some really good hardy rhododendrons by crossing *R. R. caucasicum, catawbiense, ponticum* and *maximum.* Many of these are still considered worthy of a place in the colder gardens.

Later, Cornish gardeners introduced the blood of *R. Griffithianum* and *R. Thomsonii* into their hybrids, and in the warm climate of that part of England these plants flourished, and many fine specimens are still to be found in the gardens of that county.

During the past thirty years so many hundreds of beautiful new hybrids have been introduced that the writer in this short article finds it very difficult to do justice to so vast a subject.

It would perhaps have been best to have kept the hybrids of the species together, but as most of the work in creating these plants has been carried out by amateur growers I propose to make separate sections of a few of their most important homes, commencing with "Bodnant", the garden of Lord Aberconway, president of the British Royal Horticultural Society.

Some of the earlier hybrids of *R. Griersonianum* were first made at Bodnant.

R. Vanessa *(R. Soulbut* x *R. Griersonianum)* received a First Class Certificate in 1929.

R. F. C. Puddle *(R. neriiflorum* x *R. Griersonianum),* an orange-red of great merit, received an Award of Merit in 1932.

R. Fabia, A.M., and R. Fabia var. Tangerine, A.M. *(R. dichroanthum* x *R. Griersonianum)* are most striking hybrids, especially in the clear orange form, probably the first hybrid of this color and still one of the best.

R. Astarte, A.M. *(R. dichroanthum* x R. Penjerrick) has varying shades of pink and is a good parent. Crossed with *R. haematodes* it produces the dwarf growing R. Aspansia, A.M.

R. Sunrise *(R. Griersonianum* x *R. Griffithianum)* is a rather tall growing plant with lovely pink flowers and has received the F. C. C.

R. Choremia, A.M., with early red flowers, was a hybrid of *R. haematodes* with blood-red *R. arboreum.*

R. Matador, F.C.C. 1946, *(R. strigillosum* x *R. Griersonianum),* is a very striking scarlet retaining the good leaves and habit of *R. strigillosum.*

R. Dorinthia, F.C.C. *(R. Hiraethlyn* x *R. Griersonianum)* is also a fine red, but the best of the *Griersonianum* scarlet hybrids is R. Laura Aberconway, F.C.C. *(R. Griersonianum* x *R. Barclayi).* Two other fine scarlet hybrids were raised at Bodnant from R. Barclayi, namely R. Red Wing, F.C.C. (R. Barclayi x R. Shilsonii) and R. Cardinal, F.C.C. (R. Barclayi x *R. arboreum).*

R. Williamsianum x *R. Wardii* gave R. Cowslip, A.M., a beautiful, dwarf, pale yellow-flowered plant, while *R. orbiculare* x *R. Griffithianum* gave the large-flowered pale pink R. Penllyn.

Two first-class early flowering plants of great merit are R. cilpinense, A.M. *(R. ciliatum* x *R. moupinense)* and R. Seta, *(R. spinuliferum* x *R. moupinense).*

Two other dwarfs were R. Bluebird, A.M. *(R. Augustinii* x *R. intricatum),* a good plant which in color lives up to its name, and R. Valaspis, A.M., with pale yellow flowers, a hybrid between *R. Valentinianum* and *R. leucaspis.*

R. Lady Chamberlain var. Bodnant Yellow, F.C.C., has a bright yellow, waxy flower, the best of the yellows from this well-known cross. *R. coeruleum album* x *R. concatenans* gives R. Peace, A.M., of cream flower and glaucous foliage.

Before we leave the Bodnant hybrids where no doubt many lovely plants have not been mentioned, special attention should be drawn to the work done with *R. repens,* giving us some most interesting plants which inherit to a great extent the distinct dwarf character, but unlike *R. repens* they are most free flow-

ering. Two of the best are R. Elizabeth, F.C.C. *(R. repens* x *R. Griersonianum)* and R. Ethel, F.C.C. *(R. repens* x R.F.C. Puddle). Both are a fine scarlet, and are of course especially suitable for rock work or a small garden.

Exbury

Exbury is the home of the late Lionel de Rothschild and is more favorably situated than Bodnant. On the south coast of England, sheltered by the Isle of Wight with maritime influences on three sides, although not quite as good it compares very favorably with Cornwall. In this garden the hybridization of rhododendrons was carried out on a larger scale than anywhere else in this country.

No doubt the most unique hybrid is R. Lady Chamberlain, F.C.C. (Royal Flush x *R. cinnabarinum),* with hanging, terra-cotta and orange, Lapageria-like flowers. R. Lady Rosebery, F.C.C., is similar but with pink blooms. There are many forms of these two rhododendrons all worth growing.

Lady Bessborough, F.C.C. *(R. discolor* x *R. campylocarpum),* has rich cream flowers with a reddish marking at the base. The variety R. Roberte also received the F. C. C., but has pinkish flowers.

This rhododendron hybrid proved a very good parent. Crossed with *R. Wardii* it produced R. Hawk, a very good yellow rhododendron of intermediate habit between the two parents.

R. Day Dream, A.M. (Lady Bessborough x. *R. Griersonianum)* commences with pale pink buds, turning to real biscuit color when fully expanded, while the hybrid with *R. Souliei* gives R. Halcyone, of medium growth with creamish to pink flattish flowers. R. Jasper (Lady Bessborough x *R. dichroanthum),* is late flowering with good yellow, tubular-shaped flowers.

R. Naomi, A.M. *(R. Aurora* x *R. Fortunei),* var. R. Nautilus, A.M., and the Exbury var., A.M., are good, hardy hybrids, and make first rate plants with pink flowers combined with various illuminating shades.

R. Idealist A.M. (R. Naomi x *R. Wardii),* has a good truss of creamy-white flowers carried erectly on very bushy plants.

R. Carita, A.M. (R. Naomi x *R. campylocarpum),* makes a very showy woodland plant with pale lemon young flowers turning pale pink later.

R. Fusilier, F.C.C. *(R. Elliottii* x *R. Griersonianum),* at its best about mid-May, is rightly named with rich bright red flowers.

R. Grenadier, F.C.C. (R. Moser's Maroon x *R. Elliottii)* has large trusses of dark crimson blooms. Mid-June.

R. Gaul, A.M. (R. Shilsonii x *R. Elliottii),* has a truss of blood-red flowers of a waxy nature very hard to excel.

R. Golden Horn *(R. dichroanthum* x *R. Elliottii)* makes a good shaped medium plant with large loose trusses of a fine orange color.

R. Romany Chal, F.C.C. (R. Moser's Maroon x *R. eriogynum),* is a first-rate late June rhododendron, with distinct foliage, and rich red flowers with a full truss.

R. Romany Chai, A.M. (R. Moser's Maroon x *R. Griersonianum),* has a lighter type of flower and truss than the previous rhododendron and flowers a little earlier.

R. Chanticleer, A.M. *(R. Thomsonii* x *R. eriogynum),* is a little loose in habit of growth, but has waxy, tubular red flowers of good substance.

R. Carmen, A.M. *(R. didymum* x *R. repens),* makes a very dwarf, well-shaped, cushion-like plant, free flowering, carrying crimson hanging bells in twos or threes.

R. Jaipur *(R. repens* x *R. Meddianum)* is quite a creeper with selected forms not bushy at all, flowers larger than *R. repens,* same color.

R. Mariloo (R. Dr. Stocker x *R. lacteum),* best form, has clear yellow flowers, a good truss, of which the late Mr. Lionel de Rothschild thought very highly.

R. discolor was also used successfully for hybridization and produced large growing plants which make a fine late display, needing ample room.

R. Albatross, F.C.C. *(R. Loderi* x *R. discolor),* is a strong grower, carrying huge trusses of white, pink-flushed flowers in early June, and is one of the best of the Exbury hybrids.

R. Angelo, A.M., and its variety, R. Solent Queen, A.M. *(R. Griffithianum* x *R. discolor),* with white flowers, is at its best in mid-June.

R. Antonia, A.M. (R. Gill's Triumph x *R. discolor*), gives us a little color amongst these late *R. discolor* hybrids with real rich, pink flowers. Mid-June.

Of a softer shade of pink and later in bloom is R. Ladybird, A.M. *(R. discolor* x R. Corona), while R. Bonito, A.M. *(R. discolor* x R. Luscombei), gives huge trusses of white flowers with faint pink markings in early June.

R. Sir Frederick Moore, F.C.C. *(R. discolor* x R. St. Keverne), early June, makes a bold splash in the woodland with pale pink flowers.

Leaving these giants of rhododendrons and dropping down to R. Bric-a-Brac, A.M. *(R. leucaspis* x *R. moupinense),* is quite a relief. This is a dwarf, early flowering hybrid and during favorable weather in March the compact shrub is covered with flowers intermediate between the milky white of *R. leucaspis* and the large white of *R. moupinense.*

R. Bo-peep, A.M. *(R. moupinense* x *R. lutescens),* with flat, yellow flowers, is a small type of plant needing a mild spring during which it can be most beautiful.

R. Eddie, A.M. *(R. obtusum* var. *Kaempferi* x *Apollo);* this fine brick-red, dwarf plant needs shade when in bloom.

R. Bengal Fire *(R. obtusum var.* x *R. Oldhamii)* is similar to R. Eddie in habit but has more salmon coloring in its prolific flowers. R. Electra, A.M. *(R. chasmanthum* x *R. augustinii)* is intermediate between the two parents as regards flowering period, but a better blue.

R. Eleanore, A.M. *(R. desquamatum* x *R. Augustinii)* has not quite the blue color of R. Electra, and flowers much earlier in April.

R. Impi, A.M. *(R. didymum* x R. Moser's Maroon), is a very dark, dwarf rhododendron, perhaps too dark for a dull position; R. exburiense, A.M., *(R. didymum* x *R. Kyawi),* makes a much better plant, brighter in color and flowering as late as August; unfortunately the most sheltered positions must be allotted to it.

A halt must be called somewhere and with this late-flowering hybrid we leave the Exbury hybrids.

Tower Court

Mr. J. B. Stevenson, chairman of the Rhododendron Group of the Royal Horticultural Society has a great knowledge of rhododendrons. His garden contains the best collection of rhododendron species in this country. He has also been responsible for the introduction of some very good hybrids.

R. Polar Bear, F.C.C. 1946 *(R. diaprepes* x *R. auriculatum),* is indeed first class. The foliage and solid white full trusses of flowers make it rank as perhaps the best really late white hybrid. At its best during the month of July.

R. Azor, A.M. *(R. Griersonianum* x *R. discolor),* the Tower Court form has beautiful, clear, deep pink blooms very freely borne.

R. Redcap, A.M. *(R. didymum* x *R. eriogynum),* is really extra special. A batch of plants as seen in the woodland at Tower Court early in July with its perfect, neat, dome-shaped habit, covered with deep red, medium sized flowers, has no peer for that season of the year.

R. Tessa, A.M. (R. praecox x *R. moupinense),* is a March flowering plant with rosy-lilac flowers carried on a plant of intermediate growth.

R. Romarez *(R. Griersonianum* x *R. Kyawi),* is another Tower Court special with true brilliant red flowers. Mid-June.

Caerhays

This beautiful haven of choice trees and shrubs situated on the south coast of Cornwall (England's warmest county), was the home of the late Mr. J. C. Williams, one of the greatest gardeners of this century.

R. Royal Flush *(R. cinnabarinum* x *R. Maddenii),* a lepidote hybrid, is not hardy, but its Lapageria-like flowers still reign supreme. There are two forms, one pink and the other pale orange.

R. Blue Tit *(R. impeditum* x *R. Augustinii)* is an alpine type of rhododendron with pale blue flowers during late April.

R. Moonstone *(R. campylocarpum* x *R. Williamsianum)* makes a charming plant, with loose hanging bells of cream color in its best forms. *R. Williamsianum* crossed with *R. haematodes* produced R. Humming Bird, another small grower. The Caerhays form of this hybrid seems a much better color than others and if planted with yellow or on its own, the dangling red bells in clusters of three and four about mid-April are most effective.

R. Crossbill *(R. spinuliferum* x *R. lutescens)* makes a rather unique hybrid of light growth. The yellowish, light orange tubular flowers have stamens protruding beyond the corolla. Early April.

R. Sulphur Yellow *(R. Souliei* x *R. campylocarpum)* has very neat trusses of cream and pink flowers.

R. Yellow Hammer *(R. sulfureum* x *R. flavidum)* displays its many small and rich yellow flowers during mid-April and makes a good plant to mix with the many mauve colored alpine rhododendrons.

Other Rhododendron Hybrids

Many other hybrid rhododendrons have come from various Cornish and other private gardens and it is proposed to deal with a few, adding the raiser's name after the cross.

R. May Day, A.M. *(R. haematodes* x *R. Griersonianum)* (Williams), is a really excellent medium type of plant with true scarlet-red, bell-shaped flowers.

R. Alison Johnstone, A.M. *(R. yunnanense* x *R. concatenans)* (Johnstone), a very good hybrid with quaintly colored pale pink and cream flowers.

R. Damaris (Dr. Stocker x *R. campylocarpum)* (Magor) is a very good yellow rhododendron, the Logan form being particularly good.

R. Souldis *(R. Souliei* x *R. discolor)* is also by the same raiser, and makes a medium size plant with flattish white flowers of good substance.

R. Arthur Osborn, A.M. *(R. didymum* x *R. Griersonianum),* raised at Kew, is another dwarf, free-flowering dark red rhododendron, and from the same source we received R. kewense *(R. Griffithianum* x *R. Fortunei).* This makes a lovely, large white-flowered plant for a sheltered woodland.

R. Loderi, produced from the same parents *(R. Griffithianum* x *R. Fortunei)* (Loder), is infinitely better. Its huge, sweet-scented blooms have no rivals; surely this rhododendron still stakes its claim as the best white. There are various named varieties, flowering during early May. R. Isabella *(R. Griffithianum* x *R. auriculatum),* by the same raiser, is an extremely good late-flowering white plant, flowering the end of July.

R. Aries *(R. Thomsonii* x *R. neriiflorum)* (Ramsden) makes an ideal plant for the woodland garden. Given a mild spell of weather during late March and early April its waxy, deep red flowers are well worthy of the F.C.C. given to it. Raised by the same grower, R. Shot Silk *(R. campylocarpum* x *R. dichroanthum)* makes a dwarf plant with yellow, tubular flowers.

R. Tally-ho, F.C.C. *(R. Griersonianum* x *R. eriogynum),* caused quite a stir when first shown at Chelsea Show in May, 1933, by two exhibitors (Lady Loder and Mr. J. J. Crosfield). Rightly named, its scarlet-red flowers in full trusses are indeed bright.

The late Mr. J. J. Crosfield raised many other hybrids and amongst them R. Firetail (R. Britannia x *R. eriogynum)* is a good red.

From Lord Swaythling several good hybrids have been introduced with perhaps R. David, F.C.C., outstanding. The female parent is unknown, but the male flower was R. Hugo Koster. This is a good hardy flowering shrub for general garden use, with compact trusses of blood-red flowers.

R. Marcia, A.M., is more choice, being a cross between *R. campylocarpum* and *R. Fortunei* with deep primrose colored flowers. Also from the same garden is R. Margaret Dunn, A.M. *(R. discolor* x R. Fabia). This hybrid has a rather unusual coloring, being apricot-flushed shell pink.

Nurserymen's Hybrids

To finish this note on British hybrid rhododendrons without mentioning the good work done by our nurserymen would be committing

(Continued on Page 20)

Italian Horticulture

JOHN A. GRANT

EDITOR'S NOTE—*Arboretum members will be interested in knowing that Mr. John A. Grant's book, "Trees and Shrubs for Pacific Northwest Gardens," which was sponsored by The Arboretum Foundation, is now being republished in Italian by the firm of Antonio Vallardi of Florence, Italy. Doubly interesting to many of us is the similarity of climatic conditions in northern Italy and our own Pacific Northwest. This has prompted the publishing of a manuscript by Mr. Grant on "Italian Horticulture," which was first published in Italian and distributed in Italy by the United States Information Service Bulletin for December, 1945.*

ITALIAN gardens usually have a strongly unified formal structure. Some are wrought on a tremendous scale and are massive, imposing, grandiose, dignified. Others are smaller, more intimate, though still following a more or less rigid geometrical pattern. One feels that in many instances the original design has been cluttered up by a superabundance of ornaments either of statuary, or topiary, of potted plants or of individual plant specimens "busily" dotted about the scene. It speaks volumes, then, for the strength of the original conception of the garden design, the strength of its skeleton structure, that it still retains its identity as an integral unit. That to me, is the basic and most valuable contribution of Italian gardens to the field of landscape architecture—a contribution that is not to be underestimated. It does seem to me, however, that in almost every garden I have seen there has been an unfortunate corollary to this design-viewpoint. There has been a regrettable lack of variety of plant material employed in the execution of the design.

English gardens, in sharp contrast to Italian (if such a sweeping generalization may be excused) frequently abound in unlimited wealth of plants culled from all over the world. True, this has often resulted in gardens that are mere collections of horticultural specimens with no semblance of pictorial composition, formal or informal design of any sort. Such hodge-podge collections or "garden museums" lie at the opposite extreme from the strongly unified Italian formal garden, severely lacking in variety of plant material. A more ideal solution is to have a unified design in which a wide range of plant material gives subtle variety and interest in place of the satiating dullness that has apparently been considered necessary or justifiable in too many Italian gardens.

In American horticulture this issue is fortunately becoming more clearly defined all the time. American horticulture, having inherited so much from all the countries of the "Old World" has been in the happy position of being free to take what has seemed best from a number of differing cultures and so to gain a fresh and vital approach. It should be stated here that the seeker for a single distinctive modern "American" garden style will not find one. What can be seen slowly evolving out of a welter of imitations of European and Asiatic cultures, is a regional building architecture with the possibility of a regional garden design following in its train. Each region is primarily a climatic and geographic unit. That region having the most in common with Italy from a climatic standpoint is the Pacific Coast west of the Cascade Mountains extending from southern British Columbia through Washington and Oregon to the northern half of California. Gardeners in the Pacific Northwest (as this region is commonly designated) are only just beginning to utilize the vast wealth of good garden plant material which is available to them. They have the rich opportunity of deriving full benefit of England's vast storehouse of tried and proven garden plants, accumulated through generations by plant explorers and by extensive hybridization and selection from original species. American horticulturists have begun to tap this reservoir. Much remains to be done to educate people to the riches at hand but the variety in common use in Pacific Northwest gardens still

*Mr. John Grant is well known to our readers, not only as an author and contributor but for the excellent broadcasts he has made in our behalf. His return from U. S. Army service is welcomed by a host of friends in the Pacific Northwest who share his keen appreciation of our unique horticultural advantages.

greatly exceeds that to be found in Italian gardens. Here, then, lies a great potential future of expansion and development for Italian horticulture.

We on the Pacific Coast use many garden plants indigenous to Italy. *Arbutus Unedo* (known as the Strawberry Bush), several species and garden hybrids of *Cistus* (often called Rock Roses), *Spartium junceum* (Spanish Broom), several heathers including *Erica arborea, E. mediterranea, Calluna vulgaris,* these and many more are valued highly and frequently planted. Italian gardens should have the benefit of our native *Arbutus Menziesii,* a magnificent, large, broad-leaved evergreen tree of very striking character. Our *Cornus Nuttallii,* which is quite the showiest of all the dogwoods, should be enjoyed for the Italian species which we use — *Cornus mas.* These examples could be multiplied a hundred-fold. Perhaps what is most needed is the study of plant geography which reveals the various parts of the world having similar climatic and ideographic conditions and consequently regions to which we can look for sources of new and interesting plant material. This is a most fascinating study and I can most heartily recommend it to all Italian garden lovers and horticulturists. It will open up whole new vistas of thought and enjoyment. Italian gardens are already embellished with a small number of plants representing different parts of the world, but this number should be augmented by many others from these same regions. From Japan and China, from both North and South America, from South Africa, Australia and New Zealand come many trees, shrubs, and flowers that merit a lasting place in Italian gardens—not as rare, isolated botanical specimens but woven right into the very fabric of the garden design. A few have been welcomed in. Why ignore others equally deserving?

Two groups of ornamental plants that especially deserve a wider use and a better representation in Italian gardens are the deciduous "flowering" trees and broadleaved evergreen shrubs. The former not only impart lively seasonal color to the garden but the distinctive individual patterns of their branches become an important part of the garden structure itself. Broadleaved evergreen shrubs have been used but have been extremely limited as to variety. Many, such as camellias and the myriads of rhododendrons and evergreen azaleas, are brilliant in bloom but the varying texture and pattern of their foliage masses is even more important to the garden design. A shrub with small leaves has a fine foliage texture and one with large leaves a relatively coarse textured foliage mass. The intelligent use of a wide range of foliage textures adds immeasurably to the interest of the well-designed garden and gives it a distinction—even to the point of brilliance—for which there is no substitute. To achieve such effects the garden designer must have an ample selection from which to choose. Hence the importance to Italian horticulture of first having a good choice available and second of acquiring an understanding of how to incorporate these additional materials in an invigorated garden design.

May I say in conclusion that I realize that I am urging a change in fundamental viewpoint. Perhaps it is a change that cuts too sharply across the lines of tradition to be well received. To some it may seem radical or even merely a criticism of an accepted standard. I have made these few brief comments in the spirit of helpfulness. I have tried to point to a challenging opportunity, to hint at a vigorous, revitalizing approach to garden design that can enrich and enliven both new and old with fresh beauty, life and interest.

NOTICE

Frequent requests are coming in from libraries for copies of the Summer 1946 issue of THE ARBORETUM BULLETIN, of which we have none on hand. We will appreciate any copies of this issue which can be made available for the purpose of satisfying these requests.

Glenn Dale Azaleas

B. Y. Morrison*

THE named hybrid azaleas, originated and introduced by the Division of Plant Exploration and Introduction under the general name of Glenn Dale hybrids, and others now in propagation for future placement, represent the results of a specific breeding problem conceived originally for rather definitely local conditions.

Stated concisely, the purpose was to obtain a race or races of winter-hardy azaleas that would have as large and varied flowers as those of the "Indian azaleas" that make the southern gardens so spectacular through the late winter and early spring months.

The material used was arbitrarily limited to species and clonal varieties, all of which are included in the Tsutsuji section of the Division Anthodendron Endl. of the genus Rhododendron. The term Tsutsuji Section is used deliberately and with this spelling rather than the older and more inaccurate spelling Tsutsutsi.

There has been of late a movement on the part of some to speak of this section as the *Obtusum* Section, which seems quite unfortunate to me, as there are almost no specimens of typical *Rhododendron obtusum* Planchon known to be in cultivation in the United States and its floriferous, small-flowered clonal variants are not typical of the whole section, whose species in cultivation for the most part are large flowered. The word *Tsutsuji* is merely the Japanese word for azalea and presents no insurmountable difficulty in pronunciation for any save the chronically indolent.

As far as winter hardiness is concerned for our local area, the problem is to find the plant or plants that tolerate our conditions. While usually the winters as a whole are not severe, the difficulties they present the horticulturist are: irregular and unpredictable variations between cold and extremely cold weather, relatively little snow cover, frequent occurrence of bright sunlight and wind within the periods of lowest temperature.

Autumn weather is usually advantageous if the gardener has helped his plants reach an almost dormant state by the first week in October, as the first severe frost often brings (about October 10) disastrous results to all unripened wood. This one critical week is usually followed by a period of mild weather that passes gradually into the true winter period. The end of winter, late February, may bring occasional days of excessive heat, but these are exceptional if they make trouble. After this there are only the sporadic "late spring frosts" familiar from all garden literature and to most gardeners.

With this in mind and some years of experience as well, it did not seem foolhardy to believe that using a group of parents, comprising the perfectly winter-hardy *Rhododendron Kaempferi, R. mucronatum* and its forms, *R. indicum (Azalea macrantha)* and variants, *R. poukhanense,* and *R. obtusum* as represented by the Kurume azaleas, we might introduce blood from the "Indian azaleas" used as outdoor shrubs in the south, with a reasonable expectation that a decent proportion of the resulting progenies might be winter hardy and worthy of clonal propagation.

This has proved to be the case.

Before discussing the results, it may be well to point out that in our climate hardiness for azaleas may be extended if certain conditions are accepted. There are frequent complaints from amateurs, who purchase one-year rooted cuttings in late summer, plant them in permanent location and then find 80 per cent quite dead the following spring. Experience has shown that no open-ground planting should be done here unless the main stalk is at least as large as a pencil and that the planting is done early enough for the plant to push masses of roots into the new soil. A light brush shade for the first winter is an additional safeguard.

Given no more protection than this, the Formosan *R. Oldhamii* has lived out of doors

*Mr. B. Y. Morrison is well known as one of America's outstanding horticulturalists. He is acting director of the National Arboretum and in the Department of Agriculture has for years been connected with the work of plant exploration and introduction. His comments on the work with azaleas at Glenn Dale will be of great interest to all interested in this group of plants.

for over fifteen years, losing all its best branches that rise above the cover made by forest leaf fall, but always blooming from the covered twigs. The old clonal variety, Mrs. Carmichael, reputedly an "amoena" hybrid, behaves in the same fashion.

As an exception among its kin, the variety Formosa, probably a clonal selection of *R. phoeniceum,* is quite hardy here, as are a surprising number of the old "Indian azalea" varieties.

In a program such as ours, winter killing must be accepted as one of the inevitable judges and valued as such.

As a routine of procedure, therefore, pollination was carried out very largely under glass, using potted specimens, grown under cool to cold conditions. The resulting seedlings were well cared for inside for two winters. All were planted out of doors in thin oak woodlands with a slightly sloping terrain, in well prepared soil that has always supported native ericaceous plants. Good care extended to watering for the first summer. After that time nature took over, and as was to be expected, there were many deaths, although not as many as we had been prepared to face.

Again emphasizing "for our climatic conditions," the beautiful Kaempfer's azalea is an excellent parent as far as winter hardiness is concerned, but transmits to most of its progeny the characteristic thin and open growth of its early life and flowers that sunburn badly if there is no broken deciduous shade. (We do not care for evergreen shade here as we and the azaleas need the summer sun!) *R. poukhanense,* again hardy beyond all question, is a parent that transmits large flower size and vigorous growth but dominantly lilac to lavender colors in the first generation and growth that is markedly like itself in all such combinations as we have made. *R. mucronatum* has been little used to date, but all of its progeny are easily identifiable as *mucronatum* seedlings and many are fine plants. Its chief fault is the production of a large percentage in which the corolla lobes are as narrow as they are in the form described by Wilson as *R. mucronatum amethystinum.* If one is looking for large flowers, he obviously does not want a parent that retards his progress. *R. phoeniceum* in its clones "Formosa" and "Maxwellii" has been little used because the former sometimes loses flower buds here and the latter is usually slow to establish, though perfectly hardy once settled into growth. The Kurume azaleas offer endless variations but have without exception reduced the flower size of the large-flowered species or clones in the resulting seedlings. *R. indicum,* as represented by *Azalea macrantha* of the trade, gives many winter-tender seedlings, tends to produce a narrow color range but has given some of our most surprisingly beautiful hybrids. *R. Simsii,* which is usually credited as being the most potent factor in the creation of the modern florist's Indian azaleas, now commonly called "Belgian azaleas" in trade papers, was available to us only as seedlings from a single Chinese collection. These plants are all hardy here and remarkably uniform. All are clear bright rose pink in color and only moderately large in size. This race, if correctly named, is entirely winter hardy. *R. linearifolium macrosepalum* is perfectly hardy but has not been used. Neither *R. Oldhamii* nor *R. scabrum* was used in any of the original series, although both were known.

Of all these, under ordinary winter conditions, *R. indicum* is the most completely evergreen, with some of the Kurume varieties almost as much so. In periods of extreme cold, the leaves become purplish bronze and curve in somewhat toward the stem but are never revolutely curved as are those of "rhododendrons" like *R. catawbiense* and its hybrids.

Fortuitous conditions favored our work the first season, for the various lots of plants assembled for the work had been grown in several distinct areas and none had been grown with a particular flowering date in mind. All were kept cool and it turned out that there was good overlapping in flowering periods, better than from old plants outside and probably better than from planned forcing. The result, therefore, was that a considerable number of combinations were accomplished without difficulty that would not come to pass in normal seasons with outdoor-grown plants.

Perhaps only five of the clones introduced fall within requirements as originally en-

visaged: Joya (141905), Tanager (141907), Glamour (141908), Remembrance (141909) and Gaiety (141910). All of these save Joya, which is a *mucronatum* hybrid, are sister seedlings from a most fruitful combination in which a deep salmon-colored clone of *R. Indicum* was the seed parent. More of the "sisters" will be introduced later. The colors range from brilliant red in Tanager, through various degrees of rose in the remaining clones. For us all are late varieties, although there is in progress a new clonal line that will be a month later.

Joya, which betrays its ancestry both in the bush habit and the pubescent leaves, has large rose-pink flowers in mid-season and, like many of its kin, must make a fair-sized bush before it shows its full beauty.

Another group of hybrids, to which again *R. indicum* gives the dominant character, is made of up Aphrodite (141898) rose; Picador (141899) brilliant red; Anchorite (141900) rose red with orange undertone; Greeting (141901) coral pink; Revery (141902) deep rose red, and Buccaneer (141903) an excellent deep red. The flowers of this group are not quite so large as in the former set but the plants produce masses of bloom at a rather earlier age.

The hybrids also include a group of seedlings which carry in landscape as whites in varying degrees of purity. Of these, Alabaster (141770), Samite (141791) and Stardust (141771) are perhaps the whitest though all carry tiny flakes of color irregularly, indeed unpredictably disposed. Dimity (141766) and Minuet (141772) show the next degree of the flaking that is commonly known in my garden as "peppermint," with Limerick (141767) still more "pied" with color. The colors in these flakes, spots or stripes run through the common tonalities of azalea pinks, lilacs and "spinal red," according to the clone. The bushes grow to six or eight feet in time and furnish lavish masses of white in the earlier garden scene.

These last varieties make the natural transition to the two definitely flaked varieties Fantasy (141775) and Caprice (141792). Garden visitors generally either like or dislike "striped" varieties, but a little discreet interrogation usually brings to light the fact that they never saw a striped azalea before and never know that striped varieties have been cherished almost from the beginning of azalea history.

For the preceding group I can always fall back on the argument that in garden design, as in painting, the wider the range of tones that tint or suffuse "white" flowers the livelier the composition, because pure white en masse is depressing. If the reader is disposed to be captious about this, he should study Whistler's famous "Girl in White" and I name Whistler in order not to be tagged with ultra-modern ideas!

For Caprice and Fantasy no such argument holds. They are as striped as old-fashioned peppermint candy sticks and you either like them or you don't. I do! The stripes are spinel pink in the one and a slightly browned spinel red in the other.

Those that remain do not represent major hybrid groups and one frankly is a changeling sort of thing, for which very reason it was called Pixie (141777). The flowers are of moderate size but appear less because the lobes of the corolla roll back. The corolla itself looks somewhat two-parted as in some species with the two lowermost lobes more than usually deflexed. The color is white with a rose blotch on the upper lobe and paler shading through the center of the other lobes. Thanks to their form and carriage, the flowers have an "up-and-off" look as if they might suddenly fly away in the April sunlight.

Carmel (141776) and Jubilant (141781) are sisters with rather fair-sized flowers of good form and rather clear rose colors.

Fashion (141788) and Mayflower (141793) have one parent in common, but Fashion is more typical of the group. From the garden designer's point of view these give the effect of magnificent Kurumes that come into flower as the standard Kurumes go out of bloom, here a matter of some two weeks.

The growth and leaf habit, however, are a modification of those of *R. indicum,* with little difference in the foliage and a more lax branch-

(Continued on Page 19)

Horticultural Conditions in Western Europe

By Frank Bonnell*

WESTERN EUROPE and the British Isles have for years been the source of many new hybrid plants not generally grown in the United States. During the war we were unable to secure these and many fine plants have disappeared from commerce, as we had neither the stock nor the labor to propagate them here.

With the need in mind of replacing these, I flew to Europe in May of this year to look over the situation and determine what stocks were available and the new developments, if any, made during the war.

I visited England, France, Belgium and Holland and while many of my contacts were disappointing, especially in England, France and Belgium where the extreme shortage of manpower resulted in many fine nurseries being overgrown with weeds and generally rundown, I was gratified to find that in Holland the better nursery stocks had been well cared for and their owners prepared to do business. There had been labor shortages there as elsewhere, and much of the land area was forcibly converted by the Germans to food production, but the prudent Dutch found a way to save most of their finer stock by concentrating it into small areas. They were crowded closely together with little room for growth, but they were well weeded and cared for otherwise. One gathers that this was encouraged by the Germans with the idea of using this material for their own trade at some later day. Another factor which favored the Dutch was that, outside of the first devastating bombing by the Germans of such cities as Rotterdam, there was little bombing except by the English and Americans, and this was concentrated mostly in strategic centers and other military objectives. The nurseries were not seriously injured.

At the end of hostilities the Dutch displayed a recuperative ability seemingly beyond that of any other European country. They made the most of their bad situation and by improvising already have much of their business life functioning. Railroads which during the war were reduced to only 20 per cent of their prewar operations, have already been raised to better than 60 per cent, despite their loss of rolling stock confiscated by Germany and the general havoc wrought by military operations. Amsterdam, one of the principal airports in Europe, now has over sixty daily scheduled flights to points all over the continent.

I was the first American buyer to appear in Europe, and obviously I was unexpected, for nowhere but in Holland was anyone prepared to quote prices or seemed to know what was available for sale. Frequently prices quoted were entirely out of line. In France most of the nurseries were busy, doing a big business with the United States army. The material being purchased was for landscaping American cemeteries and plants were being shipped for this purpose even into Belgium.

In England, France and Belgium all prices were quoted in their money, which makes quick computations impossible for many foreign buyers. In contrast, the Hollanders quoted everything in American dollars and this plan was worked out for every country, so that, regardless of where you were from, you were quoted prices in your own money. It is easy to understand why a small nation of nine million people has for centuries been such a big factor in world trade.

One who is unfamiliar with the origin of hybrid rhododendrons will be greatly surprised to know that many of the fine plants which we have come to think of as English, such as Britannia, King George and others, are in reality Dutch creations. The English names are the result of a keen commercial sense. England is the big market for rhododendrons, and when an outstanding variety is developed in Holland the grower does not release it until he has accumulated a stock of

*Mr. Frank Bonnell not only has been an active supporter of the Arboretum since its inception, but is one of the outstanding nurserymen in the Pacific Northwest. He is carrying on the splendid tradition so ably developed by his father. We are sure our readers will be interested in his first-hand report of European conditions.

considerable size. Then the plant is taken to one of the English shows, usually the rhododendron show at Vincent Square, Westminster, where it is officially christened, usually with an English name. This creates an immediate demand, and since the only plants available are held by the Dutch the English nurserymen buy from them for resale. Thus the English get the honor, the Dutch the money, and everybody seems quite happy with the arrangement.

Summing up, I might say that there was little new in England for resale, but limited quantities of the finer prewar varieties were available. It will be a year or longer before the new plants which have matured during the war years are available in appreciable numbers.

France, always a source of fine lilacs, has many lovely plants available, and they are going in heavily for tree peonies.

Belgium has limited stocks and many growers are specializing on *Azalea indica,* but conditions are too unsettled for satisfactory purchases. It will be several years before the merit of their stocks can be estimated.

Holland has by far the best plant material available, especially in azaleas and rhododendrons. The newer ones will undoubtedly be displayed at the English shows in 1947. The Dutch have for years been pre-eminently the leaders in azaleas, and fortunately have saved many of those fine old varieties which remain the aristocrats of the family. These have all but disappeared from the American nurseries, and replacements will be readily sought. Then there are scores of new varieties which matured during the war which will be welcomed by all growers. It is difficult for the average person to evaluate many of these azaleas until he has seen a mass of well-grown plants in full bloom, and it is impossible to describe the color of some of the new hybrids.

In deciduous azaleas, these include Ghents, single and double; Mollis hybrids of fascinating colors, including brilliant reds; then there are the *rustica flore pleno* varieties with their beautiful double flowers; and others of uncertain parentage in a dazzling array of colors.

To name them all would be impossible in the space available, but a few will suffice. In deciduous: Babeuf, bright salmon; Byron, *(rustica flore pleno),* white tinted rose; Beethoven (mollis X), deep pink; Chicago (mollis X), deep brilliant red; *coccinea speciosa* (Ghent), one of the loveliest orange reds; Freya, *(rustica flore pleno),* nankeen; Il Tasso *(rustica flore pleno)* bright red; and Lord Lister, deep pink, shaded yellow.

Foundation Activities

THE fall and early winter have found the Arboretum Foundation busy with a boxful of reorganization plans, most of which have by now been completed.

First, there are the new officers, with Mr. Maurice Jackson as president; Mr. M. M. Chism, Mrs. Arthur J. Krauss, and Mrs. Carl Ballard as vice-presidents; Mrs. Charles L. Harris, secretary; Mr. Roy S. Leighton, treasurer, and Mr. Milo Ryan, executive secretary.

Second, five new board members have been named and approved. They are Mr. Raymond C. Davis, Mr. Earl F. Hubbard, Mr. Darwin Meisnest, Mr. W. H. Seifert and Mrs. Paul Voinot.

Third, new committees have been named and approved by the Board of Directors:

Executive Committee: Mrs. Carl Ballard, Mrs. Arthur J. Krauss, Mrs. Don Palmer, Mr. Donald G. Graham, Mr. M. M. Chism, Mr. Roy S. Leighton.

Liaison Committeee: Mr. Graham, Mr. P. B. Truax and Mr. Raymond C. Davis.

Finance Committee: Mr. Leighton, chairman, and Mr. Harry J. Markey, Mr. Truax and Mr. Donald G. Eggerman.

Rhododendron Show Committee: Mr. Graham, chairman. Committee members to be named by the chairman.

In July, 1942, the Arboretum received plants of nearly 30 varieties of the Glenn Dale hybrid azaleas, through the courtesy of Mr. B. Y. Morrison, whose interesting article describes some of the first results of his work on this group. It is expected that most of these varieties will be flowering along Azalea Way in the Arboretum next spring.

An Amateur's Notes on the Triflorum Series

HERBERT G. IHRIG*

MANY rhododendron growers are so captivated by the larger hybrids, their splendid coloring, foliage, form and general grandeur that they lose sight of some of the most useful and lovely rhododendrons in existence. These are to be found in the *Triflorum* series which today is known and appreciated by only a comparatively few people.

This series contains over fifty different species, but for most growers a large majority of these need give no concern. To neglect the top bracket of this group, however, is to close your eyes to some of the most beautiful shrubs introduced into our gardens. How large this top bracket may eventually become we do not know as only a limited number have been grown on the Pacific Coast, but a few of the choice plants will suffice to illustrate their importance.

From a purely personal point of view I would head the list with two favorites, *R. Augustinii* and *R. yunnanense*, for both have a daintiness, a delicate lace-like beauty which is the direct opposite of the typical rhododendron and can be used in groupings where the larger leaf and flower types are inappropriate. Their use in cut flower arrangements is reminiscent of lovely old Chinese prints.

R. Augustinii is the blue rhododendron and while different plants in the species vary in color from a light lavender blue to a deep clear blue, all are delicate and lovely. Those who prefer the clear blue should buy when in flower or select plants which have been propagated from cuttings of the desired shade. This species forms a large bush 10 to 12 feet in height and nearly the same width. There is a large group about twenty years old in the Tenny collection at the Arboretum which it is a real treat to see in late April or early May.

R. yunnanense is to many the finest member of the series. The flowers are pinkish to blush white or pale lavender and are mostly marked with red spots. A very free flowering shrub which literally smothers itself with blossoms from the topmost branch to the ground, it is an irregular grower and may be used in most any naturalistic planting. I have seen it in a thicket, at the edge of a pool, climbing around an old stump, trained to droop over huge rocks and in shrub borders. Always it seemed perfectly in place and exceedingly lovely. The flower resembles an azalea with long protruding stamens which give it its lacy, fairy-like beauty.

R. caeruleum comes with deep rose-lavender flowers and in a white form sometimes called *R. eriandrum.* I have never grown the dark form but the white variety is a very satisfactory plant and can be used in most any small leaf grouping. The sprays are also lovely as cut flowers.

R. chasmanthum and *R. chasmanthoides* may be classed together for the average grower although the first is considered the finest. They have only flowered sparsely in my garden as my plants are young. However, people with older plants are very enthusiastic about them.

R. exquisitum, *R. oreotrephes* and *R. timeteum* again may be considered together for garden purposes as all belong to the *Oreoterphes* sub-series and it is difficult for the average gardener to distinguish among them where good forms are grown. They may have pale lavender, mauve, mauve-pink, or purplish-rose flowers with beautiful glaucous leaves, the latter being especially attractive. The flowers are slightly more open than many of this series. Their display of bloom in April is one of the garden's finest sights.

R. Keiskei is a low-growing, compact shrub quite different from those previously described. It goes nicely in a rock garden, is very free flowering, has lemon yellow flowers and makes a delightful show in April.

There are many others which might be described and which you may prefer to the species mentioned here, but those selected are good examples of the beauty contained in this series.

*Known to all Northwest rhododendron enthusiasts as an authority, and also as the man whose dream became a reality in "The Handbook of Rhododendrons," Herbert Ihrig here presents another of his informative articles.

Rhododendron Awards in 1946 by Royal Horticultural Society, England

Award of Merit, March 26, 1946

Ailsa-Jean. *(R. tephropeplum* x *R. moupinense)*. Truss of 3-4 funnel-shaped flowers, each 2 inches wide; color amaranth rose outside, paler within, but scarlet in bud. Exhibitor: Captain Murray Adams-Acton.

Award of Merit, April 16, 1946

R. fictolacteum var. *roseum*. Raised from seeds collected by Capt. Kingdon Ward in Yunnan, 1921 (No. 4509). Leaves 12-14 inches long, polished above, fawn-felted beneath. Flowers in a compact truss of about 25, bell-shaped, each 3 inches wide, 2½ inches long, deep rose in bud, pale amaranth rose when open, blotched crimson in throat. Exhibitor: Lord Aberconway, C. B. E., V. M. H.

May Morn. (May Day x *R. Beaneanum,* pink form). Forms a dwarf plant. Leaves cinnamon-brown beneath. Truss of 8-10 funnel-shaped flowers each 2 inches wide at mouth, azalea pink to begonia, flushed porcelain rose on margins of lobes. Exhibitor: Lord Aberconway, C. B. E., V. M. H.

First Class Certificate, April 30, 1946

Matador. *(R. strigillosum* x *R. Griersonianum)*. Trusses of 10-12 wide funnel-shaped flowers 3 inches wide, 2½ inches long, colored turkey-red, faintly spotted on upper lobes. Exhibitor: Lord Aberconway, C. B. E., V. M. H.

Award of Merit, April 30, 1946

Charmaine. (Charm x May Day). Leaves densely brown-tomentose beneath. Truss of 6 wide bell-shaped flowers, 1¾ inches wide, 1½ inches long, calyx cup-shaped, nearly an inch long, colored blood-red like corolla. Exhibitor: Lord Aberconway, C. B. E., V. M. H.

Peace. *(R. caeruleum,* white form, x *R. concatenans)*. Leaves elliptic, glossy above, brown-scaly beneath. Flowers in trusses of six, broadly funnel-shaped, 1¾ inches wide, 1½ inches long, white faintly flushed palest rose externally. Exhibitor: Lord Aberconway, C. B. E., V. M. H.

Lady Digby. *(R. facetum* x *R. strigillosum)*. Leaves 10 inches long, 3 inches wide. Truss of 8 bell-shaped, blood-red, faintly spotted flowers 2½ inches wide, 2¾ inches long. Exhibitor: Lord Digby.

Gretia. (Portia x. *R. Griersonianum)*. Dense truss of 14 large flowers 3 inches wide, 2½ inches long, the calyx incised and similarly colored blood-red. Exhibitor: Lord Aberconway, C. B. E., V. M. H.

Award of Merit, May 14, 1946

R. bullatum, pink form. Leaves puckered above, covered with pale tomentum beneath. Flowers widely funnel-shaped, in trusses of 2-3, 2½ inches long, pale blush pink flushed rose externally. Hardy down to zero temperature against a north wall at Bodnant. Exhibitor: Lord Aberconway, C. B. E., V. M. H.

Glamour. (Margaret x. *R. Griersonianum)* Leaves 7 inches long, over 2 inches wide. Shapely trusses of deep cherry-red flowers, each 4 inches wide, 3 inches long. Exhibitor: Major E. de Rothschild.

Welkin. (Eros x *R. haematodes)*. A dwarf, compact-growing bush. Truss of 3-4 flowers, 3½ inches wide, 3 inches long, geranium lake to delft rose, the calyx petaloid, lobed, and similarly colored. Exhibitor: Lord Aberconway, C. B. E., V. M. H.

Award of Merit, May 28, 1946

Delius. (Ouida x *R. Elliottii)*. Flowers up to 18 in truss, funnel-shaped, 3 inches long and wide, blood-red shaded carmine. Leaves 10 inches long. Exhibitor: Lord Aberconway, C. B. E., V. M. H.

Margaret Dunn. *(R. discolor* x Fabia). Trusses of 8-9 flowers, 3 inches long, apricot flushed shell-pink. Exhibitor: Lord Swaythling.

May Pink. (Cornish Loderi x Sir Edmund). Dense truss of 18 flowers, each 4 inches long and nearly 5 inches wide; color fuchsine pink shaded light solferino purple. Exhibitor: Sir Giles Loder, Bt.

Vanessa var. Pastel. (Soulbut x *R. Griersonianum)*. Flowers broadly funnel-shaped, wider than long; color cream flushed shell-pink, tube stained scarlet inside and out. Exhibitor: Lord Aberconway, C. B. E., V. M. H.

The Arboretum Bulletin

VOL. IX, NO. 4 SEATTLE, WASH. DECEMBER, 1946

ARBORETUM FOUNDATION
OFFICE HOURS
9 a. m. to 4:30 p. m.
Monday through Friday
Phone SEneca 0920

Special Notice

To keep memberships in the Arboretum Foundation in good standing, dues should be paid during the month payable. Memberships more than three months in arrears will be dropped and the BULLETIN will be discontinued.

Arboretum Membership Blank

☐	Active	$ 5.00
*☐	Contributing	10.00
☐	Supporting	25.00
☐	Sustaining	50.00
☐	Sponsor	100.00
☐	Life	500.00
☐	Endowment	1,000.00

The Arboretum Foundation,
516 Medical Arts Building
Seattle 1, Washington

I hereby apply for membership in the Arboretum Foundation and remittance for same is enclosed to cover dues for the next succeeding 12 months.

Name .....

Address .....

All memberships are non-assessable.

*Garden Clubs and Independent Arboretum Units formed after January 1, 1946, affiliated membership, $10.00 minimum. Special rate privileges to members of Affiliated Garden Clubs and Arboretum Units.

The schedule listed above has the following exceptions:

a. That members of Garden Clubs, affiliated with the Arboretum and having membership of not less than $10.00, shall be entitled to a $2.00 or Associate membership.

b. That members of Arboretum Units shall be entitled to a $2.00 or Associate minimum membership.

c. This schedule applies only to new memberships.

The New Editorial Board

WITH this issue of the ARBORETUM BULLETIN, the president, officers and executive committee of the Arboretum Foundation have the unhappy obligation of announcing the retirement of the committee which has made up its editorial staff and the very pleasant privilege of naming its successors.

It was with particular misgivings that the resignation of Mr. Herbert G. Ihrig was at last accepted. For many years under his dynamic planning and his astuteness, both in authorship and in editorial direction, the BULLETIN has grown from a feeble, almost apologetic, infancy into a publication of some stature in its field.

With his recent associates on the committee, Mrs. J. Swift Baker, Mrs. Thomas Dowling and Mr. E. L. Reber, he carried through the planning phases of this present issue, surrendering the reins only when the pressure of other business forced him to do so..

The December meeting of the Foundation's Board of Directors, where the committee's retirement was first announced, heard the newly elected president, Mr. Maurice Jackson, name its successors.

For the coming year, at least, the destinies of THE BULLETIN will be in the hands of a five-member group, only one of whom remains from the former committee. The new editorial staff includes Mrs. Thomas Dowling—which assures us that, among other things, the Arboretum Notebook will be continued; Mrs. Else M. Frye, Mrs. O. B. Thorgrimson, Mr. William Seifert and Mr. Earl Hubbard, the last two named being among the new members of the Foundation's Board of Directors.

Problems of publication and production will center in the Foundation's offices, with Milo Ryan, executive secretary, acting as managing editor.

Hoping for a Spring issue under its direction that will be worthy of the tradition it has inherited, the new editorial staff has asked for suggestions from among the Foundation's membership, both as to article ideas and ways of making THE BULLETIN of even greater service and interest to its readers.

And in saying *vale* and *gratias* to Mr. Ihrig and his associates, THE BULLETIN, with a shrewd eye out for their advice and unofficial aid in the future, adds to its toast a most sincere "Well done."

✓ ✓ ✓

The Foundation offices in the Medical Arts Building have been re-staffed and are open for business from 9 a.m. to 4:30 p.m. Monday through Friday, holidays excepted.

Shortly after Thanksgiving the Foundation secured an additional room for its offices, moving into the quarters formerly occupied by the Seattle Historical Society. The added space makes it possible to hold committee meetings and conferences without interrupting the business of the outer office, and provides the Foundation with headquarters in keeping with the status of its work.

✓ ✓ ✓

Dreams of a partially covered, open-air amphitheatre within the Arboretum grounds, to be devoted to such horticultural activities as flower shows and the like, having received at least a preliminary blessing from the university and other interested parties, have moved one step nearer to realization. That step was the designating of Mr. William J. Bain as architect, with the assignment to proceed with sketches of the suggested structure.

In notifying Mr. Bain of his appointment, President Jackson stated that a committee from within the Foundation was in process of formation to undertake the solution of the multitudinous problems the proposed amphitheatre would involve. Already named to the committee are Mr. M. M. Chism, chairman, and Mr. Darwin Meisnest. Other committee members will be named at a later date.

✓ ✓ ✓

Glenn Dale Azaleas

(Continued from Page 13)

ing so that the plants make graceful branches that sweep over the ground. They are as floriferous as the Kurumes themselves but do not have the full color range as yet. Fashion is a clear salmon pink and Mayflower somewhat deeper. Neither touches some that are still to come.

This leaves for a final word, Mavourneen (141768), Caress (141769), and Dayspring (141780), sister seedlings almost identical in every way save in hue. The flowers are like very large single Kurumes and are borne with the same freedom—almost abandon. The colors are lightest in the throat, deepening to the margins of the lobes, and all are intensities of the same clear pale lilac pink. Any one is as good as the other, but if you want a delicate sequence, the three can be planted in a row. All are very early, coming ahead of most of the standard Kurumes.

Any plant breeder who has had the courage to launch named clones upon the world is naturally jealous for the success of his handiwork and, because these plants were produced for a local problem, the writer has certain doubts as to their value, certainly in regions of more favorable climates. Only one type of criticism, however, really annoys him, that of the always emphatic visitor who pronounces judgment on the basis of a two-year-old plant, which can show nothing of normal plant habit, degree of floriferousness or color effect en masse. Since many azaleas need ten years to make their full stature and cover themselves with breath-taking loveliness, the early criticism of the casual visitor is not well founded.

The Glenn Dale azaleas are still under propagation. From the original, perhaps, 70,000, seedlings only a few more than 100 clones have been put into mass propagation. Several new types, in groups of more than three clonal variations, have still to be offered, and the local gardener (here) who thinks of azaleas chiefly as represented by too compact plants of such clones as *amoena* or *Hinodegiri* (and there are many such) is still the proverbial ignoramus!

✓ ✓ ✓

Many of our cascara trees *(Rhamus purshiana)* have had the bark stripped from them, especially from the fine ones close to the boulevard. Some were completely girdled by the vandals who have caused so much destruction in the Arboretum, which condition will result in the death of the trees.

Better Hybrids

(Continued from Page 8)

an injustice, and the whole list would be far from complete.

Names like W. C. Slocock of Woking, Waterer Sons and Crisp of Bagshot, the Knaphill Nursery, Woking, B. Gill of Falmouth, and G. Reuthe of Kent are all firms who have done much good work in rhododendron culture.

R. Gill's Triumph *(R. arboreum* x *R. Griffithianum),* R. Gill's Gloriosa *(R. Griffithianum* x R. Pink Pearl) are two beautiful rhododendrons for a favored garden, while R. Norman Gill, A.M. (Beauty of Tremough x *R. Griffithianum),* with its very large trusses of white-flushed heliotrope-pink flowers was one of the best plants in the rhododendron trials at Wisley this past season.

The late Messrs. Anthony and Gomer Waterer of Knaphill Nursery did a great deal of fine work, introducing some very hardy hybrids for the more unfortunately placed or colder gardens. A few that come to mind are R. Purple Splendour, R. Mrs. Furnival (pink with a sienna blotch), R. B. de Bruin (rich dark red), R. Mrs. P. D. Williams (white with brown blotch) and many more such good plants. The following seven rhododendrons from Waterer Sons and Crisp are only a few of that nursery's good plants: R. St. George, A.M. 1946, after trial at Wisley, is a cross between R. H. M. Ardern x *Griffithianum.* The bell-shaped flowers are suffused pink, paling with age.

R. White Swan, A.M. *(R. decorum* x Pink Pearl), was awarded the challenge cup from the Rhododendron Association, May, 1933, for the best hybrid. It has bold, outstanding trusses of nearly white flowers.

R. Cavalcade (R. Essex Scarlet x *R. Griersonianum)* is indeed a very good brick-red rhododendron, having good trusses and appearing very free flowering.

R. Mars, F.C.C. (parentage unknown), has deep red, round flowers on erect trusses, and makes a most compact hardy shrub.

R. Princess Elizabeth (parentage unknown) is a vigorous growing plant with bright crimson flowers.

R. Peggy (parentage unknown) has flowers bright rose pink, of good substance. It received an A.M. after trial at Wisley.

R. Vulcan (R. Mars x. *R. Griersonianum),* flowers bright red. Plant with good habit.

W. C. Slocock, Ltd., of Goldsworth Nursery, Woking, have made a specialty of producing some very good *campylocarpum* hybrids most suitable for the woodland garden. Unfortunately no records of the parents of the following useful plants are known. All F.C.C.s and A.M.s awarded to the following plants were after trial at Wisley, and the great majority make compact, bushy shrubs.

R. Unique, F.C.C., pale yellow.

R. Dairy-Maid, A.M., lemon yellow, flushed pink.

R. Lady Primrose, A.M., lemon yellow, red spots.

R. Letty Edwards, A.M., pale yellow, bell-shaped.

R. Souvenir of W. C. Slocock, A.M., primrose yellow, shaded apricot.

R. Blue Ensign (cup for best hybrid plant at Rhododendron Show, 1946), pale lavender blue, dark blotch.

R. Goldsworth Crimson, crimson.

R. Goldfort; large, bold, tubular-shaped flowers, faintly cream in young stage.

R. Faggetter's Favourite, large trusses, flowers silvery pink.

These last two rhododendrons will need more shelter than the remainder.

R. Goldsworth Orange *(R. discolor* x *R. dichroanthum),* pale orange.

* * *

Damage by snow in the Arboretum during the heavy fall of November 18-20 was most severe to soft-wooded trees, especially alders and willows, but many branches or tops were broken out of Douglas firs, birches, vine maples, oaks which still retained foliage, a few of the evergreen madrona trees and many of the eastern dogwoods along Azalea Way.

* * *

Garden clean-up at this season is one of the best methods of eliminating next year's crop of slugs.

Rhododendron Complaints

E. H. M. Cox

THE ARTICLE on rhododendron diseases in your excellent Handbook, which has just arrived, encourages me to add two notes. The first is that a friend who lives in Kent tells me that the bud rot and twig blight (page 85) has become epidemic in his garden. It is not quite certain what fungus causes the disease in the British Isles, but it has been known off and on for many years; usually most frequent after a light spring frost that has damaged flower buds without destroying their tissues outright. A good growing season following has usually kept the fungus in check.

But this friend who lives in a part of Kent where rhododendrons have been grown for generations and where stands are often seen in woodland that are 20 to 30 feet high, tells me that during the past four years the fungus attack has been increasing in intensity, until last spring, on the whole a good flowering season for old and late hybrids, under 50 per cent of his flower buds opened to any semblance of a flower. When rhododendrons are of moderate size, the control mentioned by Mr. Gould is possible, but when stands are more than 20 feet high and more in thickness spraying and picking off diseased buds and twigs becomes almost an impossibility. It would be interesting if Mr. Gould could make further experiments.

The second point refers to those rhododendrons which form in the wild what I call "table-tops", in height from two to six or seven feet, so closely interlaced that one can almost walk on the tops. Species in cultivation which grow in this fashion are *R. aperantum, R. apodectum, R. Forrestii, R. russatum, R. sperabile.* We find that in old cultivated plants the centers tend to die out and ultimately the plant itself passes away. Now in the wilds most species that grow with table-tops live in wind-swept areas where snow drifts badly and entirely covers the plants. When spring comes the melting snow falls off the plants in gobs, taking with it most of the old withered leaves. In other words the snow cleanses and helps to let in light and air. Now in this country we rarely have snow sufficiently thick or lasting to perform this grooming operation, and there is no doubt at all that the accumulation of old leaves and shredded bark that collects 'round the central stems shut off necessary ventilation and the plants suffer.

We have found from practical experience that plants of this type are much healthier if the center is cleaned of old leaves and garbage. This is a tip that is worth passing on.

EDITOR'S NOTE—*Upon receipt of Mr. Cox's comments we forwarded them to Mr. Gould for further information and his reply follows. Unfortunately few of us in the Pacific Northwest have had experience in treating shrubs of the size mentioned by Mr. Cox, but if any of our members have we would appreciate any suggestions dealing with the subject.*

With reference to the first of Mr. Cox's comments mentioned in your letter of September 19th I believe that our conditions are not quite comparable with those mentioned in that we have few stands which are 20-30 feet high although occasionally we might find such conditions in hedges.

As he mentions, when stands are of that height and often more in thickness, picking off of diseased buds and twigs would be an impossibility. With our modern equipment spraying would not be, although with amateurs and home owners it is unlikely that such equipment would be available.

Perhaps some of your members would be able to offer a suggestion. Of course from a technical point of view it would be desirable first to know whether or not their disease is actually the same as ours.

With reference to the second point which he brings up, I agree wholeheartedly not only for this disease but for all diseases; that is, that any means of providing plants with better aeration will usually assist in reducing the amount of disease because of the fact that fungi require a certain amount of moisture or high humidity for their development. The more shade and the less aeration, naturally the more humidity. C. J. GOULD

Sources for Rhododendron and Azalea Plants, 1946

THE ARBORETUM BULLETIN here offers a list of certain Pacific Coast nurseries offering rhododendrons and azaleas this season, together with a check list of the plants available at their establishments.

It was prepared from information supplied at our request by the growers themselves. An effort was made to reach all nurseries in Washington, Oregon and California. Several more than are included here responded, some of them too late to be classified in time for this edition, others indicating that they were offering none of the plants in question.

For convenience of our readers the information is presented in two groups. Under List A, below, are the names and addresses of the nurseries, each with a key number preceding it. Under List B are the plant names, followed in each case by the key numbers of those growers who offer them.

Specific information as to prices and other details of negotiation is, of course, omitted here and may be obtained directly from the nurseries themselves.

List A

1. Armstrong Nurseries, Ontario, Calif.
2. Bonnell Nurseries, Route 4, Box 90, Renton, Wash.
3. California Nursery Co., Niles, Calif.
4. Capital Nursery Co., 4750 Freeport Blvd., Sacramento, Calif.
5. Coastal Gardens, Sheridan, Ore.
6. Delkin Bulb Farms, Bellevue, Wash.
7. Carl S. English, Jr., 8546 30th Ave. N.W., Seattle
8. Evans & Reeves Nurseries, 255 S. Barrington Ave., Los Angeles 24, Calif.
9. Far West Nursery, Route 2, Box 93, Bothell, Wash.
10. The Flower Basket, Grants Pass, Ore.
11. Foster's Gardens, 7744 35th Ave. N.E., Seattle 5, Wash.
12. Green Pastures Gardens, 2215 E. 46th St., Seattle 5, Wash.
13. Archie Hamlin Greenhouse, 2236 Glover Road, Milwaukie, Ore.
14. Hansen Airport Nursery, 7200 E. Marginal Way, Seattle 8, Wash.
15. Holly Grove Farm, Route 2, Longview, Wash.
16. Hopkins Nursery, Bothell, Wash.
17. Honeysuckle Farm, Alderwood Manor, Wash.
18. Island Nursery, Route 1, Arlington, Wash.
19. Kaylor Nurseries, Lakewood, Wash.
20. Kimber Nurseries, 13441 22nd Ave. S., Seattle 88, Wash.
21. Lafayette Nursery Co., Lafayette, Ore.
22. H. L. Larson, 1131 No. E St., Tacoma 3, Wash.
23. Lackamas Gardens, Route 1, Box 5A, Camas, Wash.
24. Le Blanc Gardens, Route 3, Box 71, Kent, Wash.
25. Leonard Coates Nurseries, 2201 The Alameda, San Jose, Calif.
26. Irving B. Lincoln, American Bank Bldg., Portland 5
27. Lingham's Nursery, Route 3, Box 805-C, Tacoma, Wash.
28. Lyon Gardens, R. F. D. 1, Box 290, Centralia, Wash.
29. Mills Florist, Woodland, Wash.
30. Mt. Hood Nursery, Gresham, Ore.
31. Moller's Nursery, Fairview, Ore.
32. C. H. Narron, Route 3, Box 3451, Edmonds, Wash.
33. Portland Avenue Nursery, Route 11, Box 919, Tacoma, Wash.
34. Portland Camellia Nursery, 3307 N. Williams Ave., Portland 12, Ore.
35. Pilkington Nursery, Route 1, Box 253, Tigard, Ore.
36. Powell Valley Nursery, 1600 E. Powell, Gresham, Ore.
37. Radovich Nursery, S.E. 140th Ave. and Foster Road, Portland, Ore.
38. L. N. Roberson Co., 1540 E. 102nd St., Seattle 55, Wash.
39. Rosefield Gardens, Route 1, Tigard, Ore.
40. Glenn N. Savage, The Rhododendron Nursery, Portland, Ore.
41. Sherwood Nursery Co., 141 S.E. 65th Ave., Portland, Ore.
42. W. B. Smyth Camellia Nursery, Ross, Calif.
43. W. M. Steward, Box 104, Maple Valley, Wash.
44. Timm Florist, Woodburn, Ore.
45. Tuttle Bros. Nurseries, 729 Atlanta St., Pasadena, Calif.
46. Van Veen Nursery, 3127 S.E. 43rd Ave., Portland 6, Ore.
47. Wade's Nursery, Route 3, Box 227, Molalla, Ore.
48. Walker's Hillside Nurseries, Crawfordsville, Ore.
49. Charles B. West & Son, Route 5, Box 929, Portland, Ore.
50. Whittier Select Nurseries, 1200 W. Whittier Blvd., Whittier, Calif.
51. Wright's Nursery, Route 16, Box 1046, Milwaukie 2, Ore.
52. Yaquina Arboretum, Newport, Ore.

List B

Azaleas

Adrian Brouwer, 2
Adriaan Koster, 26
Alanwold, 43
Albert and Elizabeth, 1, 3, 8, 45, 50
Alice, 2, 30, 43
Altaclarensis, 2, 3, 11, 14, 15, 16, 20, 21, 23, 24, 27, 28, 31, 35, 39, 40, 44, 47
Amoena Coccinea, 2, 11, 23, 25, 28, 30, 35, 39, 41
Amoena Superba, 16
Amaratsu, 42
Anny, 26
Anny Dyke, 2
Anthony Koster, 2, 27
Apple Blossom, 23, 26, 42, 50
Arborescens, 11, 14
Atalanta, 30, 39
Avenir, 50
Babeuff, 2, 26
Balsaminaeflora, 38
Beethoven, 2
Benigiri, 30
Betty, 2, 26, 35, 39, 40
Beni Kirishima, 28
Boudoir, 6, 39
Bouquet de Flore, 2
Bouquet Rose, 11, 16
Brilliant Red, 4, 26
Bridesmaid, 23, 24, 28, 30, 44
Candlelight, 42
Calendulacea, 6, 16, 24, 25
Cardinal, 2

Azaleas—Continued

Rhododendrons—Species

Rhododendrons—Hybrid

ARBORETUM NOTEBOOK

This department is published for correspondence and pertinent comments by experienced growers on interesting plants and their culture. We solicit your questions but space limitation necessitates the publishing of only such answers as we deem of general interest.

In the Arboretum Foundation Notebook, issue of Fall, 1946, E. M. F.'s article on layering makes no mention of a slanting cut at the point selected for propagation, nor is mention made of a generous addition of sand to the soil immediately under the layer. Perhaps this writer has been going to unnecessary trouble following the formula prescribed by a well-known clematis expert of England.

"X."

R. Moonstone (*R. campylocarpum* x *R. Williamsianum*), displayed by J. C. Williams in 1933, is an interesting newcomer to many rhododendron growers. It resembles *R. Williamsianum* in habit although it is too early to predict the height it may attain. The flowers are yellow, similar to *R. campylocarpum*.

It would be interesting to know more of soil preferences and exposure of *Cornus Kousa*. This writer has two units which apparently were not given ideal soil conditions. Great improvement was noted after applying a heavy mulch of decayed forest wood. Even now, however, results do not seem to match the description of your contributor.

"X."

Snow Queen, a hybrid rhododendron developed by Sir E. Loder and award a certificate of merit in 1933, has flowered in a number of Northwest gardens and is a splendid addition to the group of larger white hybrids. It is nearly pure white without the usual blush cast and is of upright form.

Sanders Ruby is one of the finest of a group of azaleas developed by Charles Sanders, near Brookline, Mass. It has been in commerce for sometime but is little known in the Pacific Northwest. It is a rich, ruby red, of compact twiggy growth and deserves much wider use.

Two unusually floriferous, decorative and unidentified azaleas have been calling forth admiration in my garden for some years. They were given me with a number of others in 1928 and were so small then that I believe they must have been just lifted from the flat. They have both grown and spread until now they are each more than three feet across and are a mass of bloom each spring. Both of them are evergreen, the small-leaved variety, one pink and one white. The blooms are small, but conspicuous and beautiful, covering the horizontal branches. Neither shrub grows more than about 2½ feet high. The white one has been thought to be Snow, but I do not believe it is. They may be one of the following, which names were all included in the list sent me with the original plants: Kureno Yuki, Kirin, Kuraino Hima, Azumo Kugama, *A. mucronata*, Bonnell. I would be very much delighted if anyone could fit the right name to them. Incidentally they slip very easily and I should be glad to share them with someone who could help identify them.

S. M. K.

Much to the dismay of my gardening friends I move my rhododendrons from one part of the garden to another, no matter how large the plants are. Common opinion seems to be that a rhododendron does not like to be moved. I have not found this to be so. Whenever a plant is not doing well I move it to another part of the garden. I move it if it does not set buds and bloom. When the leaves of the plant look ragged or eaten or turn yellow the plant needs a different location. I took a truck load of large plants to the rhododendron show in Seattle when they were all in bloom. After they were back in place in the garden I watered them and they went on blooming and growing as though they had never been moved.

Now I can quote to my friends from Lord Aberconway's article in the July English *Journal of the Royal Horticultural Society:* "Whenever a rhododendron is looking a bit ill, I give it a little carriage exercise and this generally cures it." I use a wheelbarrow.

R. C. DeCLEMENTS.

Rhododendron Elliottii (Kingdon Ward form No. 7725). This interesting plant was collected by Kingdon Ward during his 1927-1928 expedition. Several plants have flowered in the past three years and all merit the four-star rating given this species. No. 7725 differs from the regular species in that it has fine crimson scarlet flowers of good size and splendid texture instead of the rosy purple flowers typical of earlier forms.

Impeanum (AXXX) is one of the outstanding dwarf rhododendrons in my spring garden. Mine has not reached its maximum size by many years but it has already made a low cushion between two and three feet across rising in the center and trailing out uniformly. In April it is covered completely with a mass of ageratum-blue flowers, each about an inch across with red pistils and brown anthers. The leaves are small and inconspicuous. Impeanum is an hybrid whose parents are *R. impeditum*, a four-star member of the *Lapponicum* series, and *R. Hanceanum*, a shrub of the *Triflorum* series. It is planted near *R. chryseum*, a nice shade of pale yellow and in front of a group of *R. deleiense* with deep and pale shades of pink. Impeanum is not a rare or expensive plant but one possible for every garden where rhododendrons flourish.

G. T. D.

Rhododendron crassum from Northern Burma and the Chinese province of Yunnan is one of the real acquisitions for the Northwest gardens. It flowers in late June and early July—a great asset in itself—has large, white flowers of soft, fleshy texture and a spicy fragrance which permeates the air like honeysuckle. It is of splendid form and has rough, green leaves.

Although in the *Maddenii* series, it is rated fairly hardy in England and weathered our severe winter of 1943-44 at 12 degrees, coming through with the usual display of lovely blossoms. It received no special protection except from strong winds and excessive sunshine.

H. G. I.

Why the leaves on rhododendrons turn brown is a perennial question from all rhododendron growers. If there is anyone among our readers who has found a reason that satisfies him will he kindly send his answer to this question to the ARBORETUM BULLETIN?

In answer to many inquiries as to how large rhododendrons really grow in cultivated areas we quote a few descriptions taken from an old English garden magazine published in 1934:

"At Culzean castle, on the garden lawn, there is a specimen with a circumference of 360 feet and a diameter of 109 feet." (Name not given.)

"In the county of Dumbartonshire, at Glenair, are to be seen two very fine specimens, one of *R. Falconeri*, 28 feet high and about the same diameter, a circumference of 88 feet and the trunk at about a foot above the ground level, four feet in circumference. The other, *R. Thomsonii*, very nearly as high and much the same in circumference."

There are a great many other large plants in the British Isles but it should be remembered that most of them are species and are from 75 to 100 years old.

Rhododendron lysolepis, while not by any means of breath-taking brilliance, fits modestly and sweetly into the spring picture, the last of March, with "pinkish-violet" flowers about three-quarters of an inch across. But its habit of blooming in the fall endears it to any rhododendron grower. As long as it has been in my garden (for the last five years), each fall, early in September, it sends out a few blooms increasing in number until now, when I am making these notes, the first of November, looking from my living room windows I can see many blooms on a small shrub near a patch of *Crocus sativus*, whose lovely cups are much the same color as *R. lysolepis*, all blooming at the same time. My bush is not large nor has it a uniform, compact growth: in fact, it has a distinct personality, growing in no prescribed form or shape. *R. lysolepis* has small leaves like most of the members of the *Lapponicum* series to which it belongs.

G. T. D.

In a paper prepared for the National Horticultural Society by Herbert Ihrig he outlined his experiences with Kurume azaleas and stated that some had proved entirely hardy but others had been ruined by cold temperatures and that further trials might be necessary to determine their relative hardiness. In reply he received a letter from B. Y. Morrison, secretary of the society and acting director of the National Arboretum, which brings out two important factors which many of us may have underestimated. He says, in part, "The comment that you have any Kurume variety which should be tender is extraordinarily interesting. . . . It is my strong belief that what you lack is the proper degree of dryness and summer heat to dry the wood. Your comment fits in perfectly with the comment of Mr. Cox in his recent book on 'Plant Hunting in China,' in which he mentions, by the way, that the Kurume azaleas have not done so well. Here, along the Atlantic seaboard fairly well south they are one of the toughest shrubs you could imagine, provided, of course, that you give the proper soil and can afford a plant which has made some wood, then there will be no trouble at all."

The Bulletin Committee would be interested in knowing the experiences of other growers in the Pacific Northwest with Kurume azaleas and their relative hardiness under varying conditions. Please give variety name, exposure, relative amount of shade and moisture, soil conditions and any other pertinent facts.

Shall I use bone meal on my rhododendrons?

L. C. BEATTIE.

Most expert rhododendron growers say no, although there are some who use it. It is not recommended for the average grower. Perhaps the best explanation for this difference of opinion lies in the acidity of the soil. Rhododendrons require acid soil. Bone meal has a high percentage of lime, which tends to make the soil alkaline. If your soil has a high degree of acidity, it is quite conceivable that bone meal, while reducing the acidity, will not throw it "off balance" (to the alkaline side) and therefore not injure the plant; it might even help it. However, where soil is only slightly acid bone meal has been known to so change the soil character that it becomes poisonous to acid-loving plants such as rhododendrons. Unless you know your soil it is far safer not to use it. Rather select one of the many regular acid fertilizers especially prepared for rhododendrons.

Rhododendrons in British Gardens

(Continued from Page 3)

clayi, Earl of Athlone, praecox, Loder's White and Penjerrick, to name but half a dozen, the last perhaps the most beautiful, most distinguished and most worthy hybrid ever raised.

The Marshall and Brightmore strawberries are the best varieties for the Northwest. From intensive breeding work being done at Puyallup, it is hoped that even better forms will be developed.

INDEX TO VOLUME IX (1946)

*Numbers refer to issue number and page, i.e., 1:2 means No. 1, p. 2 of Vol. IX (1946)

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